Abstract of the Disclosure

A programmable gray-scale liquid crystal display comprises a polarizer operably coupled to a beam of incident light to pass a beam of polarized light having a polarization axis. A sequence of liquid crystal display pixels serially aligned with the beam of polarized light controls the angle of the polarization axis. An analyzer passes a gray-scale portion of the beam of polarized light from the sequence of liquid crystal display pixels corresponding to the angle of the polarization axis. Each pixel in the sequence may be independently programmed to vary the angle of the polarization axis for calibrating the display to a standard gray-scale and for correcting faulty pixels with VLSI on-chip driver and interface circuits.